

Vehicle and Equipment Fuels and Air Quality

Presentation to the
Public Utilities, Energy, and Technology
Interim Committee

June 20, 2018



Tier 3 Fuels Update

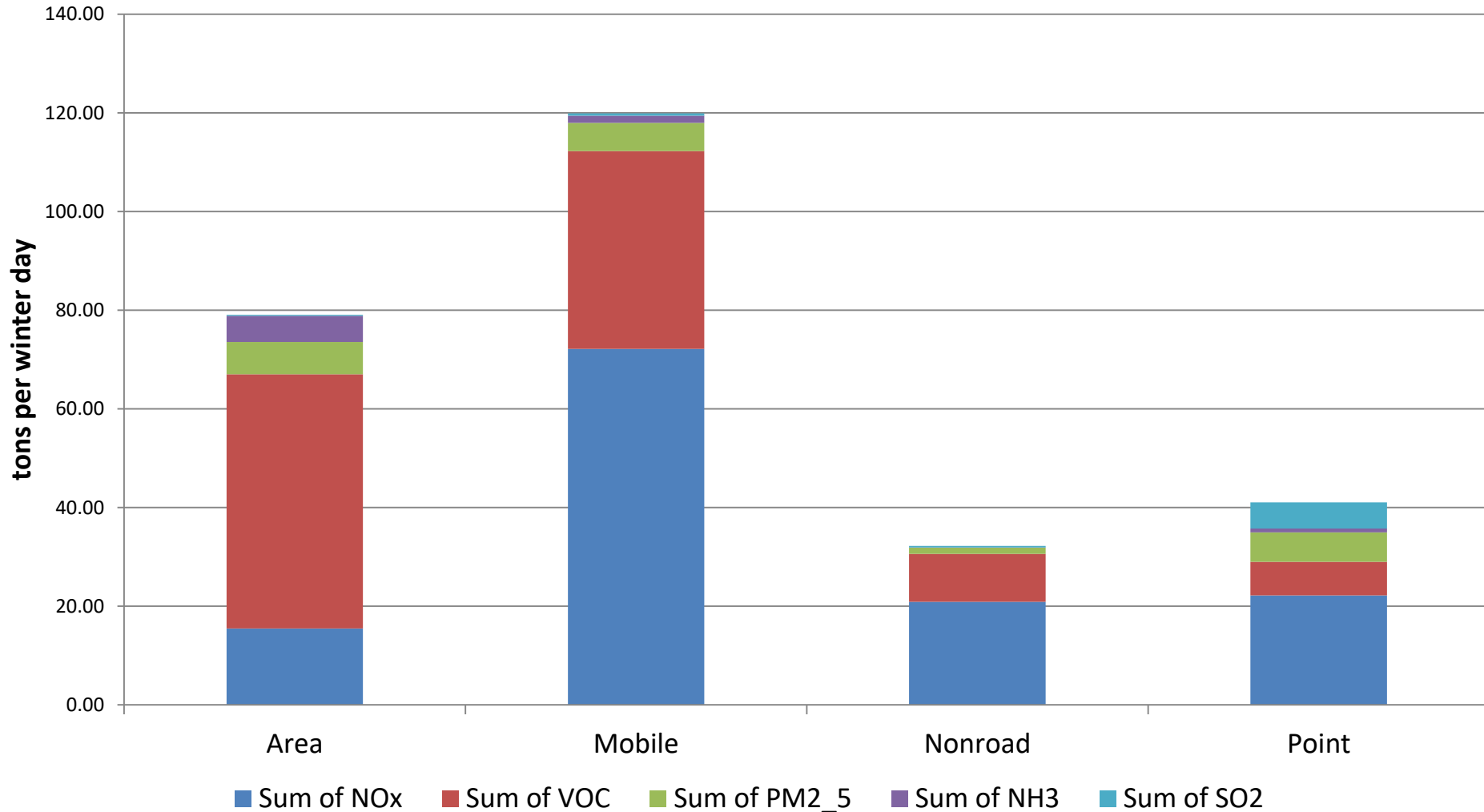
| Company | Location | Crude capacity |
|--|----------------|-----------------------------------|
| | | Barrels/stream day (Operating) |
| Big West Oil Co. (formerly Flying J) | N. Salt Lake | 33,000 |
| Chevron U.S.A. | Salt Lake City | 56,000 |
| Holly Refining and Marketing (formerly Phillips 66 Co.) | Woods Cross | 41,400 |
| Silver Eagle Refining (formerly Inland Refining Inc.) | Woods Cross | 15,700 |
| Tesoro West Coast | Salt Lake City | 63,000 |
| Utah Total | | 209,100 |

Source: Utah Geological Survey

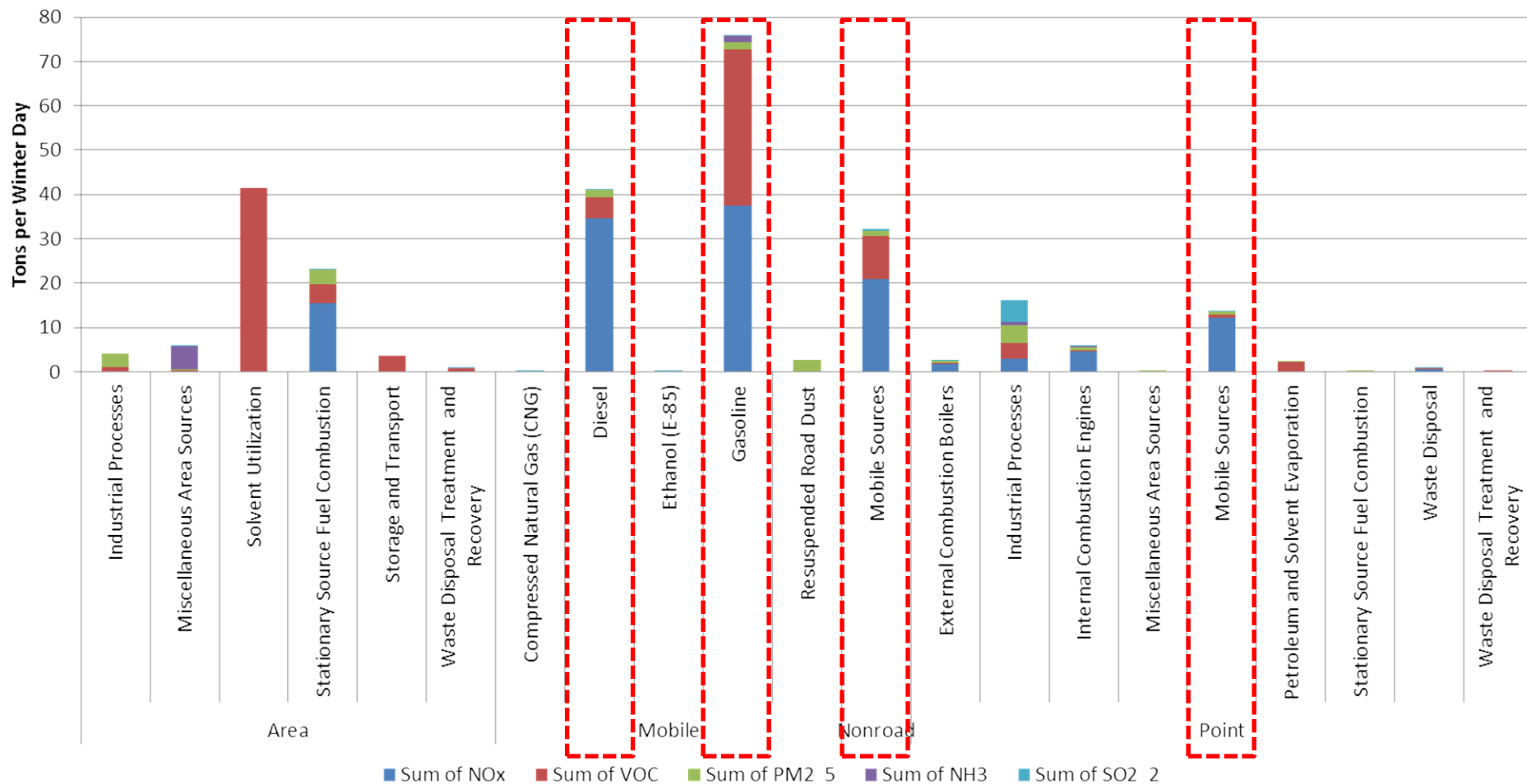
EPA Fuel and Vehicle/Equipment Standards

- Fuel Standards:
 - Tier 2 Gasoline: 30 ppm sulfur
 - Tier 3 Gasoline: 10 ppm sulfur
 - Ultra-low Sulfur Diesel (ULSD): 15 ppm sulfur
- Vehicle Standards
 - Tier 2 and 3 Vehicle Standards: Improved catalytic converter performance
 - Heavy-duty Highway Engine and Vehicle Standards: diesel particulate filter (DPF) and selective catalytic reduction (SCR) technologies
 - Nonroad engine standards:
 - Diesel construction and mining equipment
 - Diesel locomotives
 - Gasoline yard and off-road recreation equipment

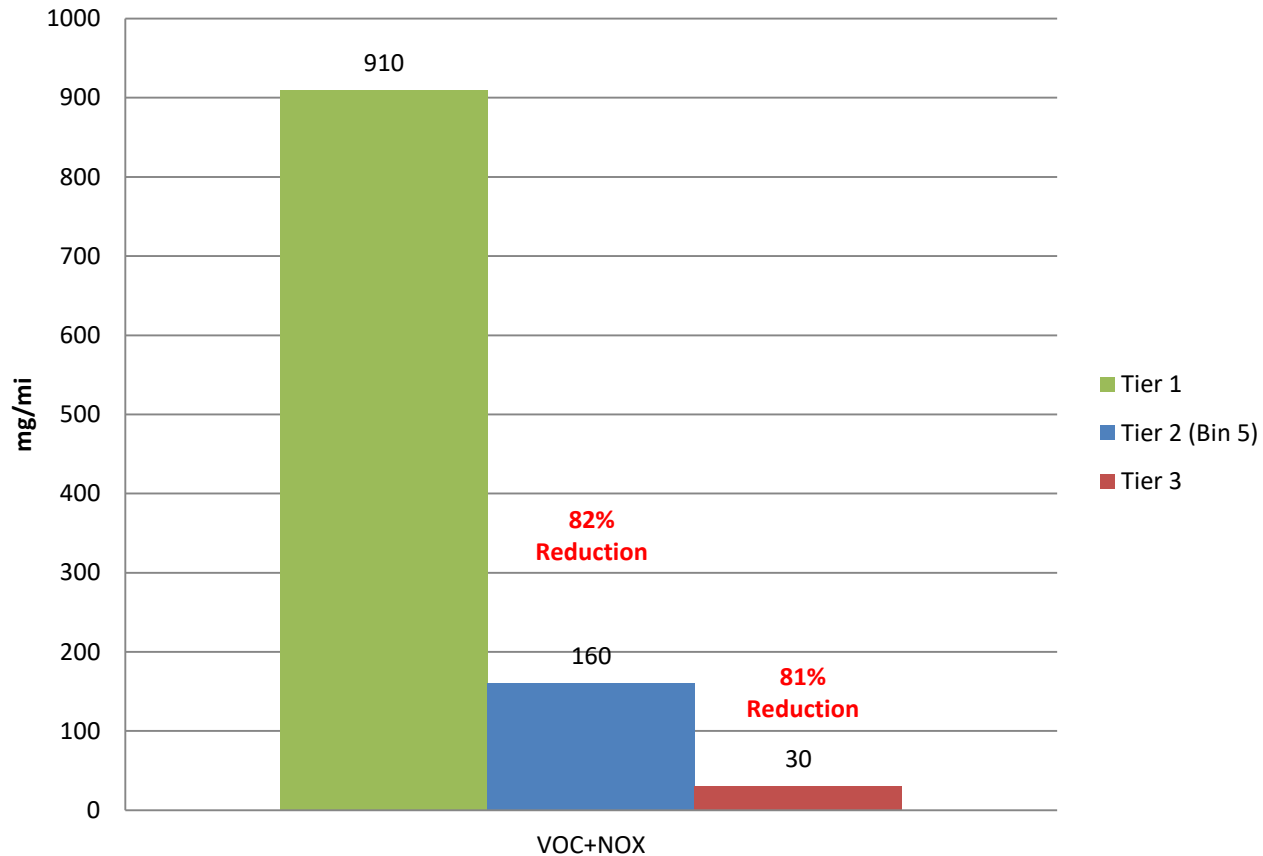
2014 Salt Lake NAA Emissions by Source – All Sources



2014 Salt Lake NAA Emissions by Source – All Sources

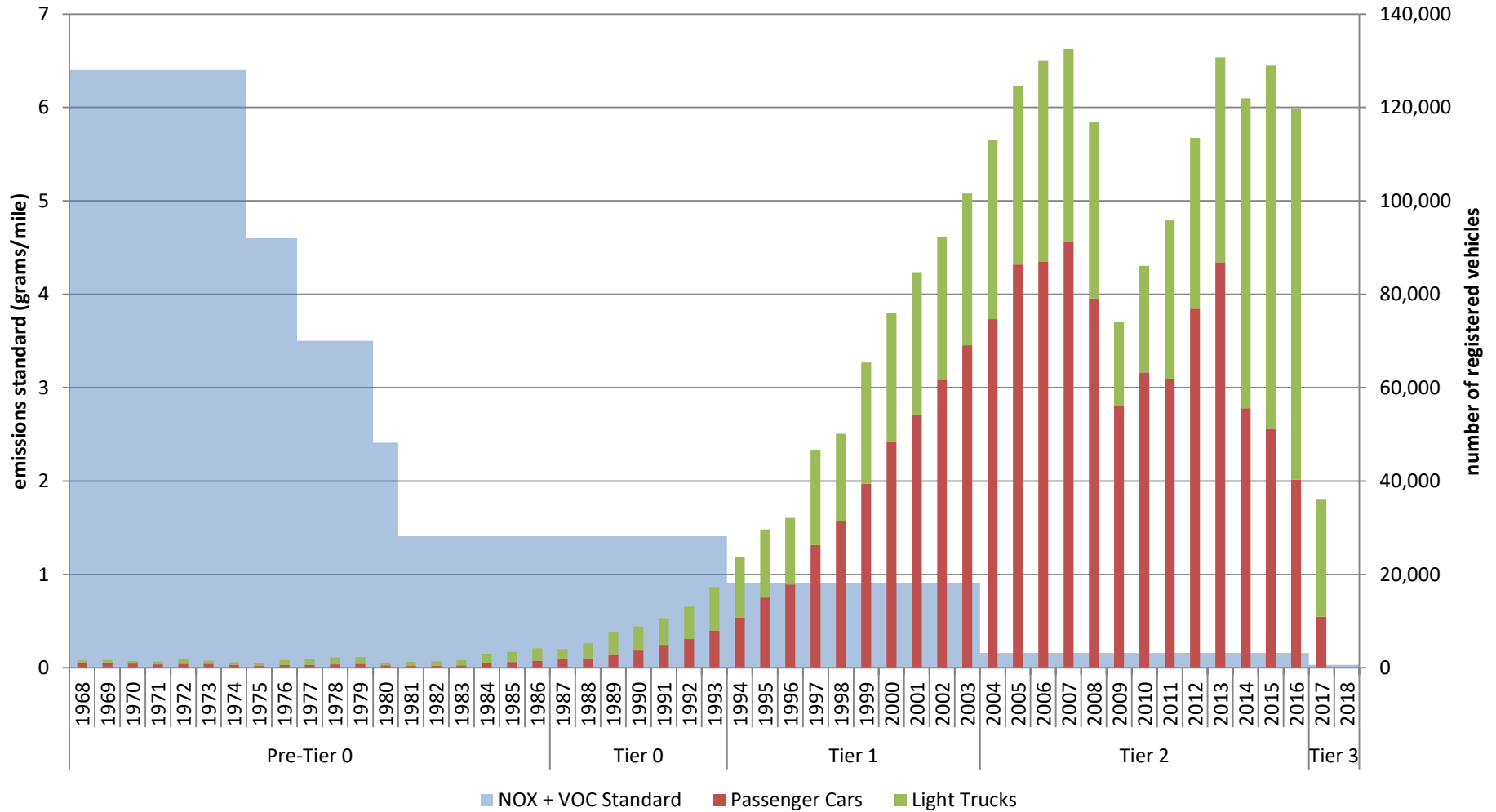


Tier 1, Tier 2, and Tier 3



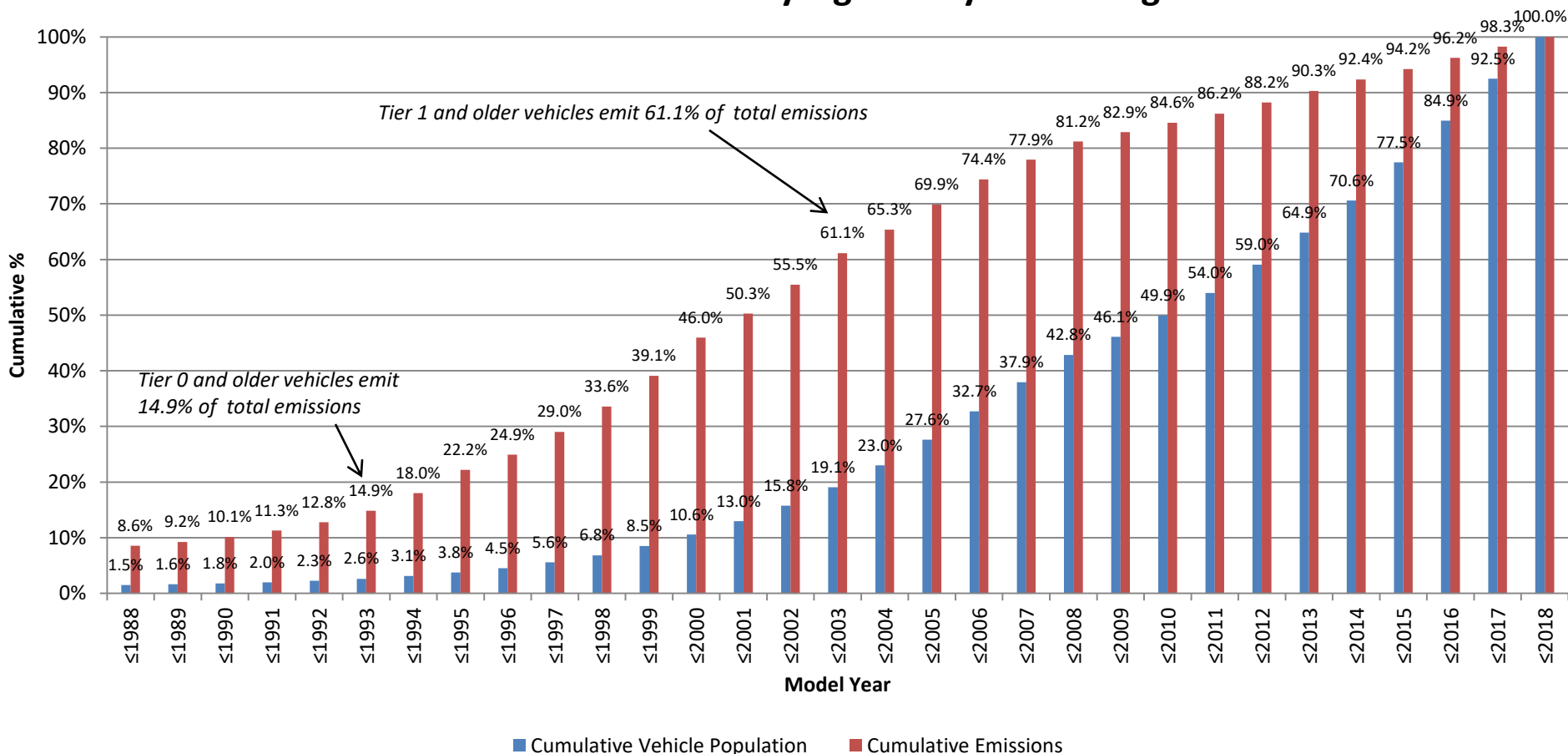
Fleet average basis

Utah Vehicle Registrations and EPA Emissions Standards



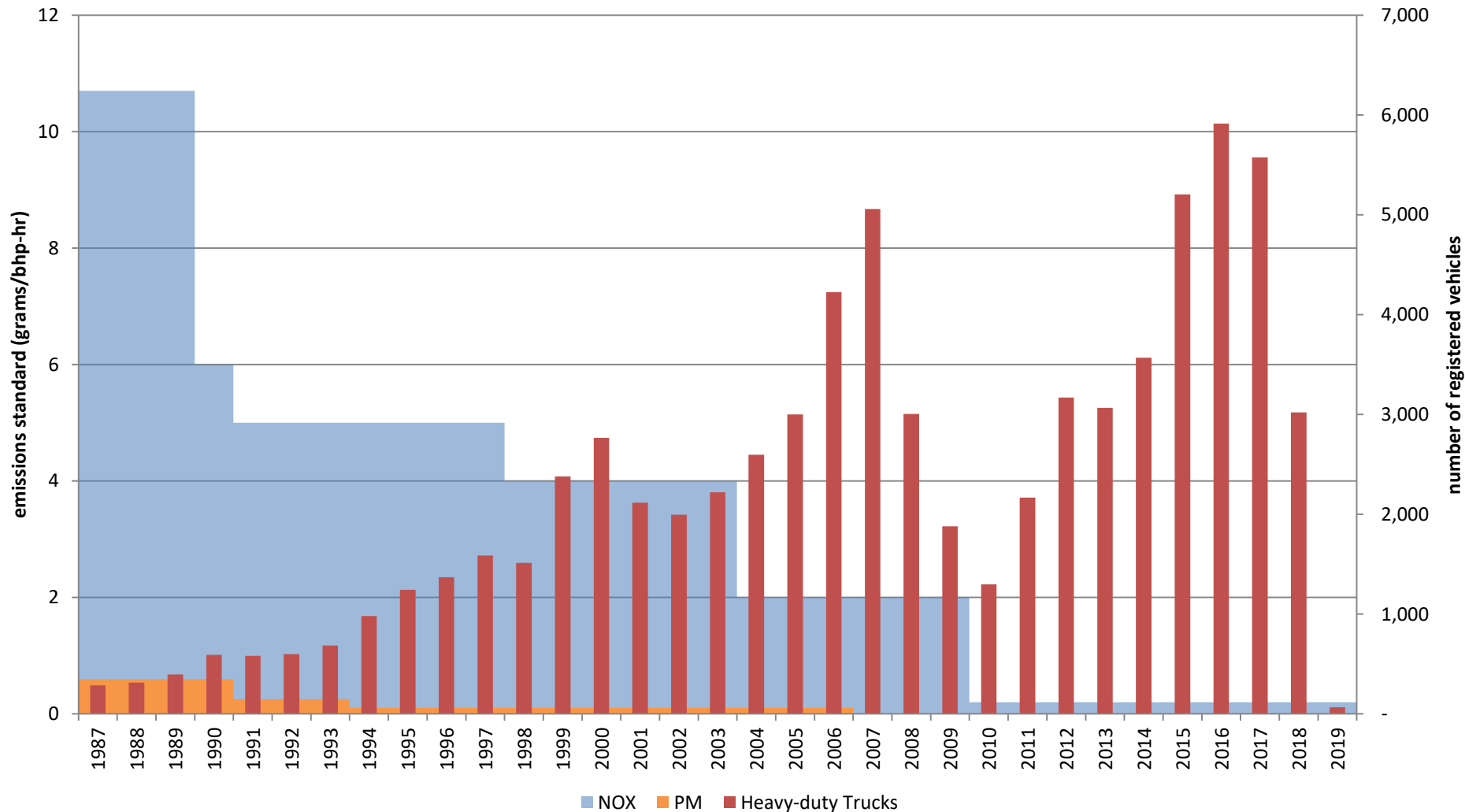
Source: EPA for emissions standards; Utah Tax Commission for vehicle registrations
(Registrations with an expiration of January 1, 2017 or greater as of February 15, 2017).

Cumulative Emissions by Light-Duty Vehicle Age



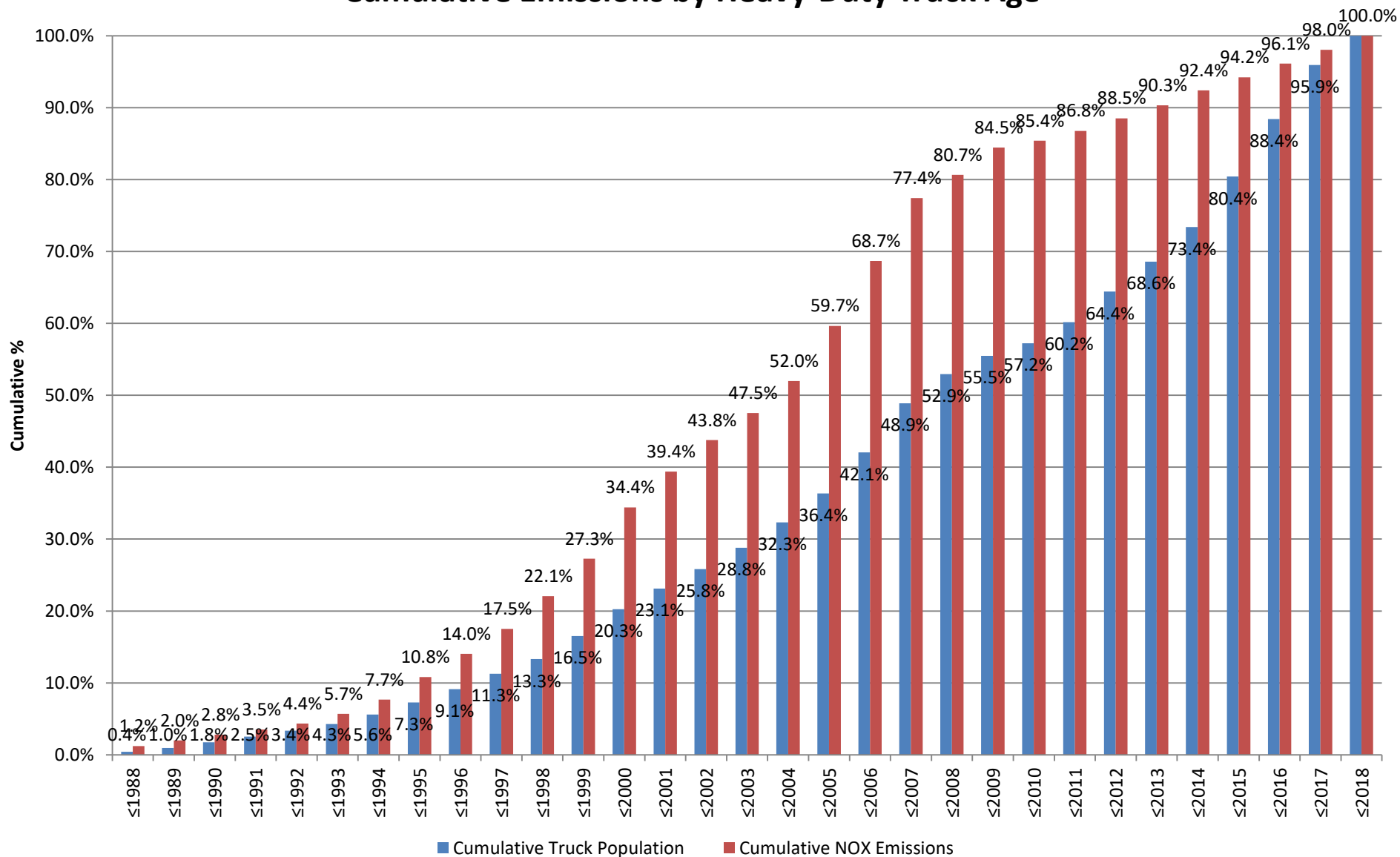
Source: EPA MOVES model using data for Salt Lake County.

Utah Heavy-Duty Truck Registrations and EPA Emissions Standards



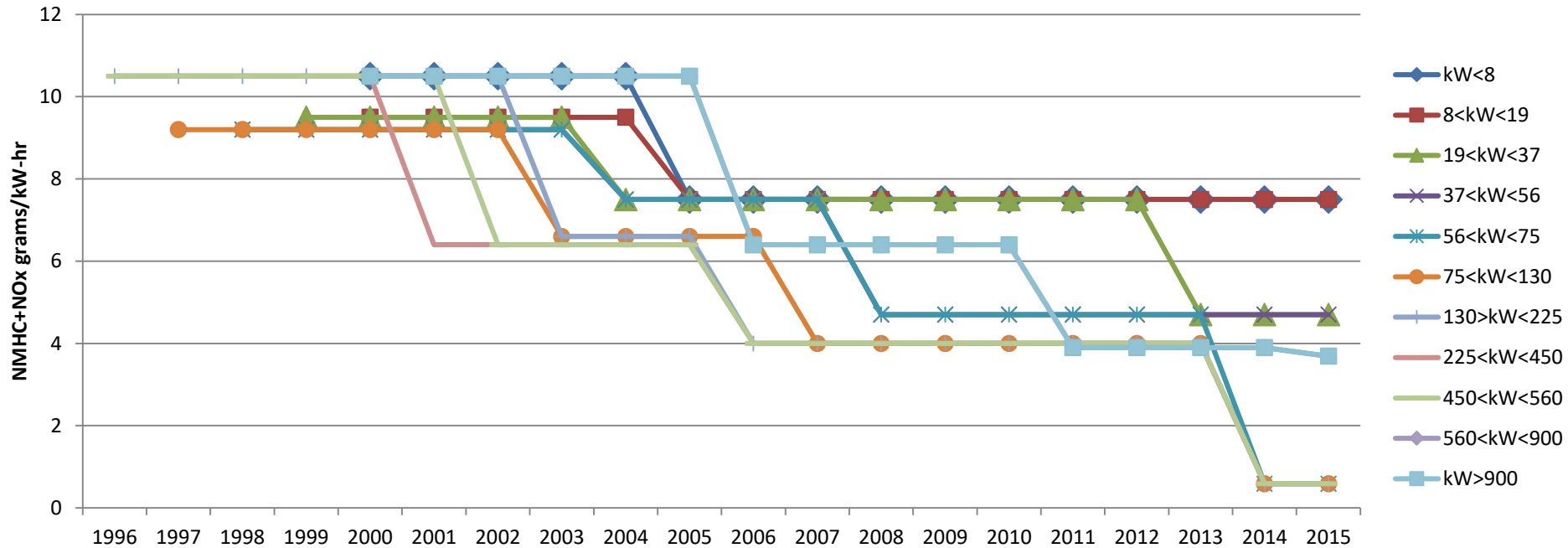
Source: EPA for emissions standards; Utah Tax Commission for vehicle registrations
(Registrations with an expiration of January 1, 2018 or greater as of February 15, 2018).

Cumulative Emissions by Heavy-Duty Truck Age

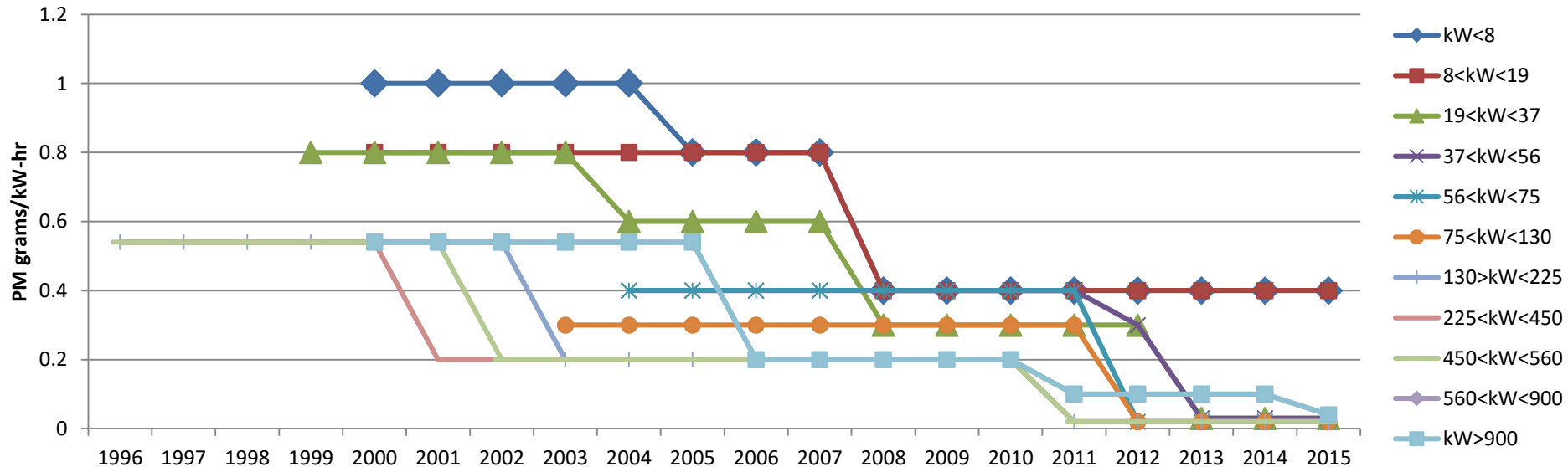


Source: EPA MOVES model using data for Salt Lake County.

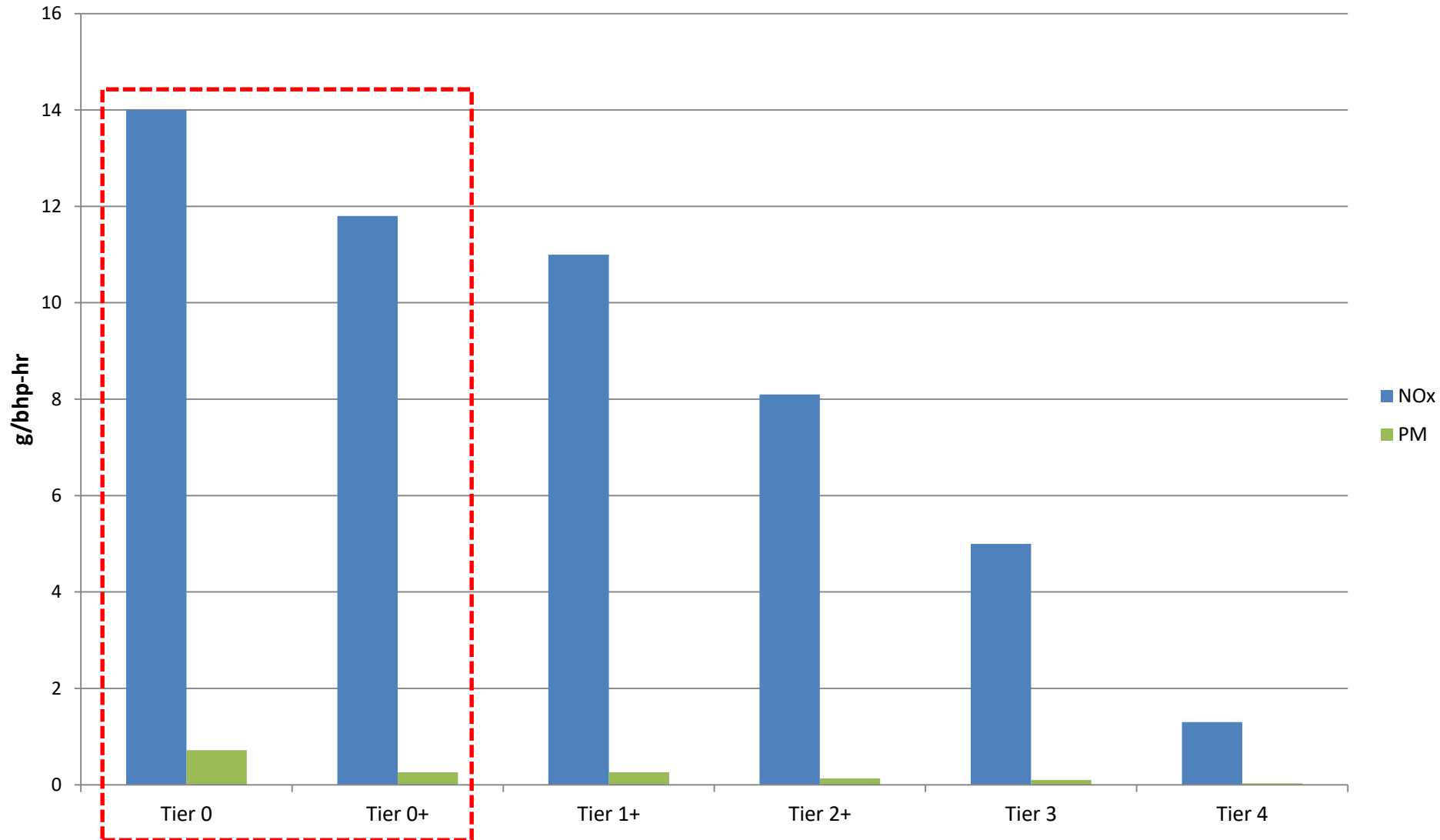
Nonroad Diesel Engine Standards (NOx)



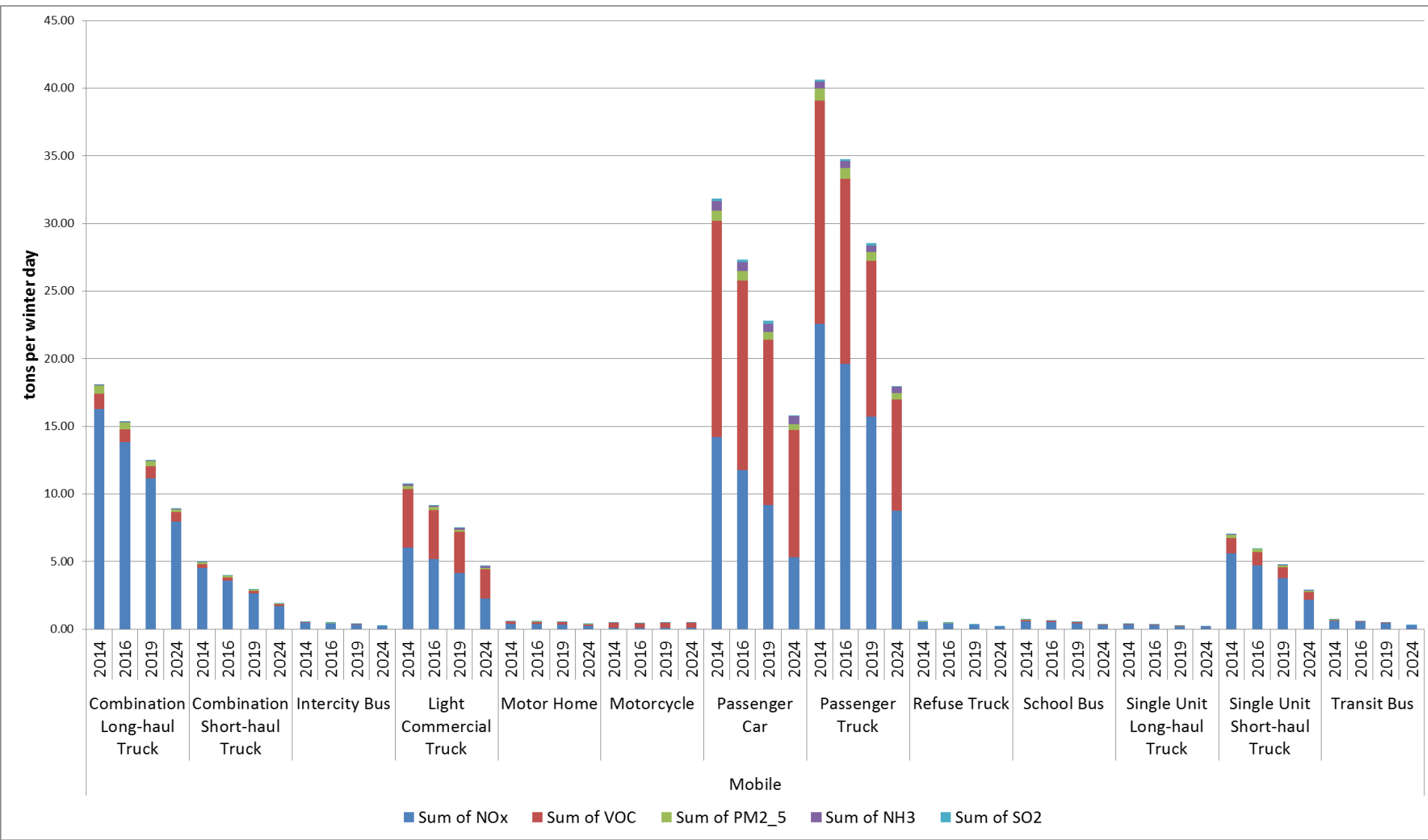
Nonroad Diesel Engine Standards (PM)



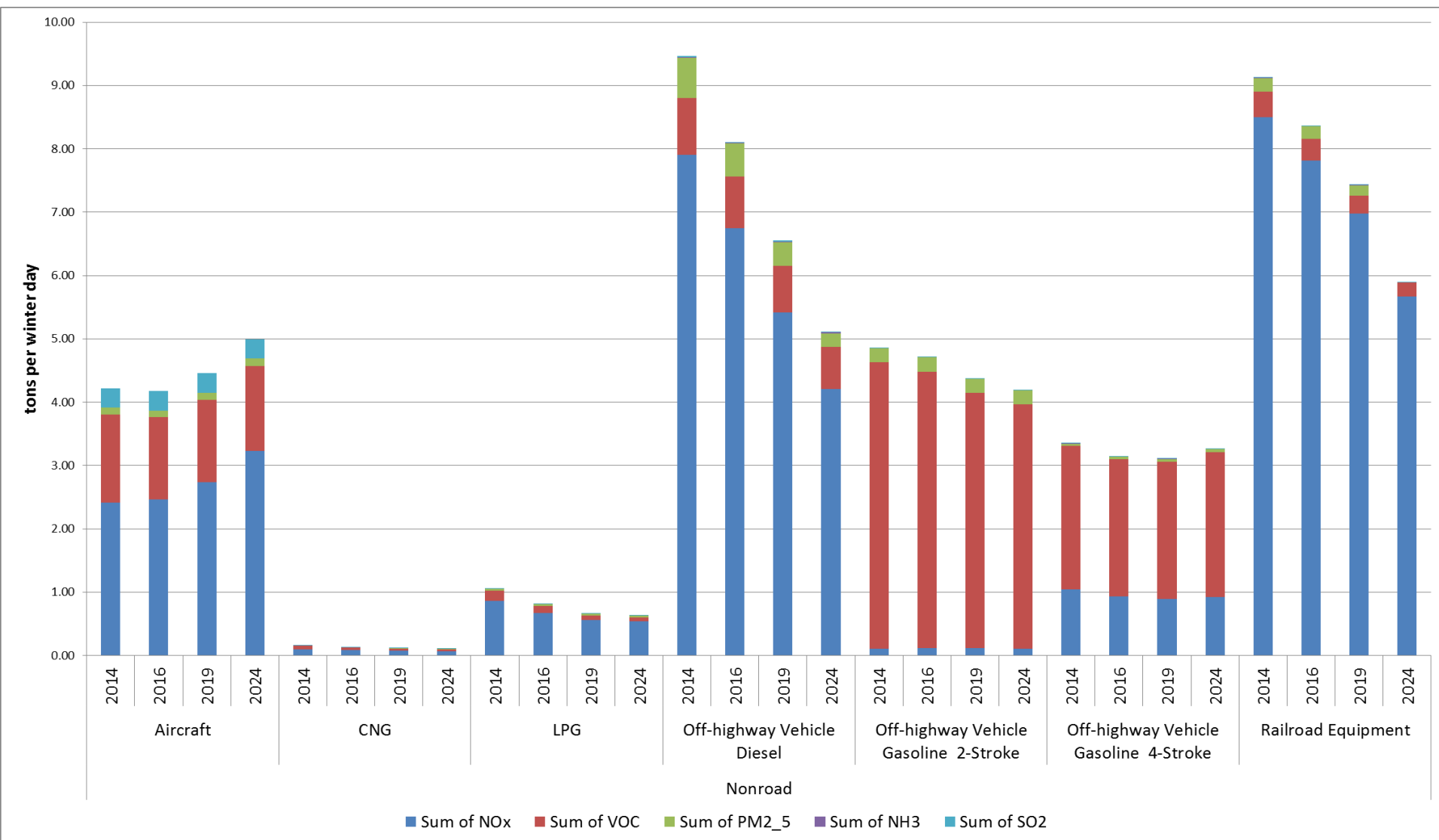
EPA Switcher Locomotive Standards



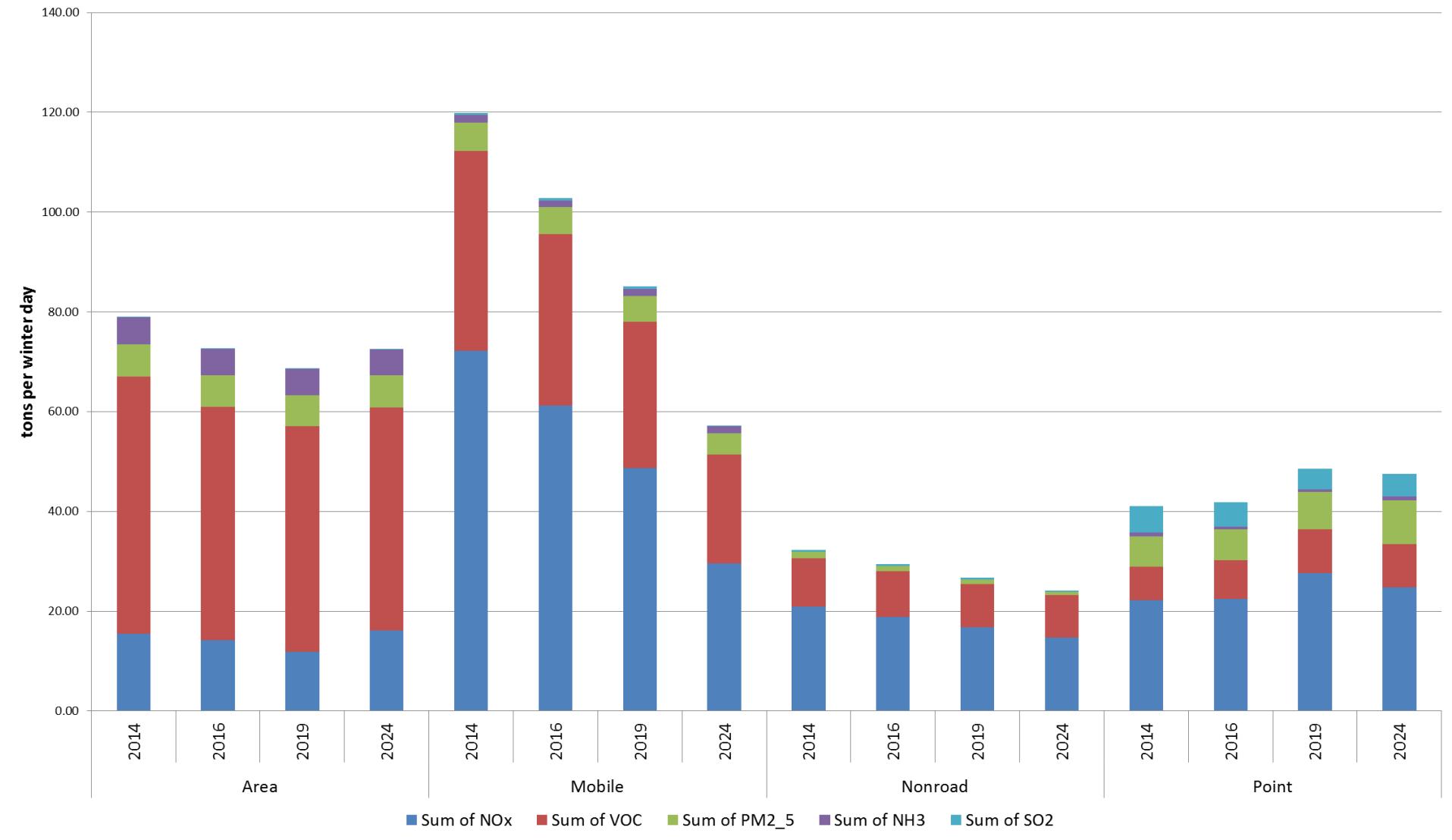
Onroad Mobile Emissions 2014-2024



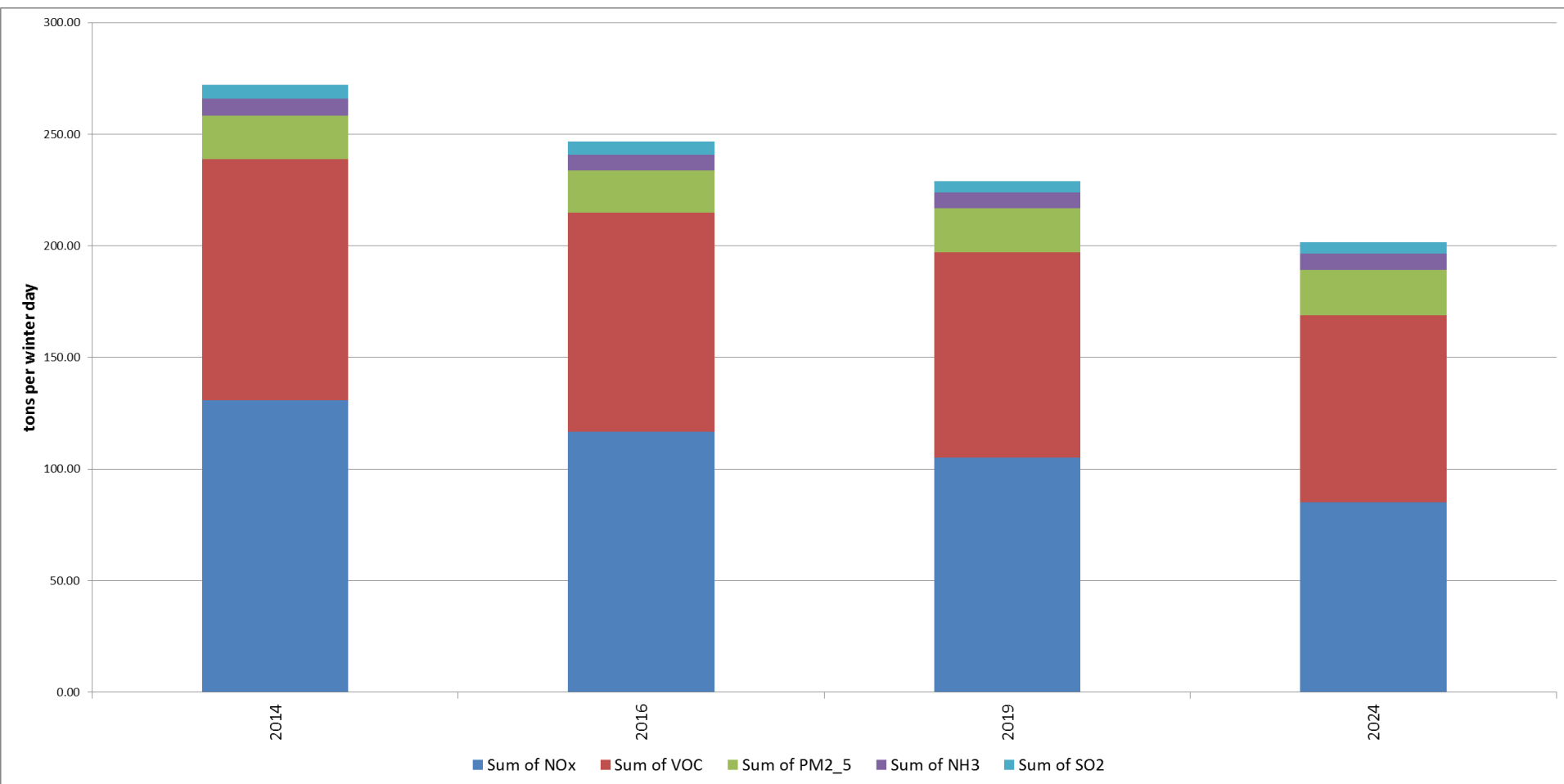
Nonroad Mobile Emissions 2014-2024



2014-2024 Emissions from All Sources



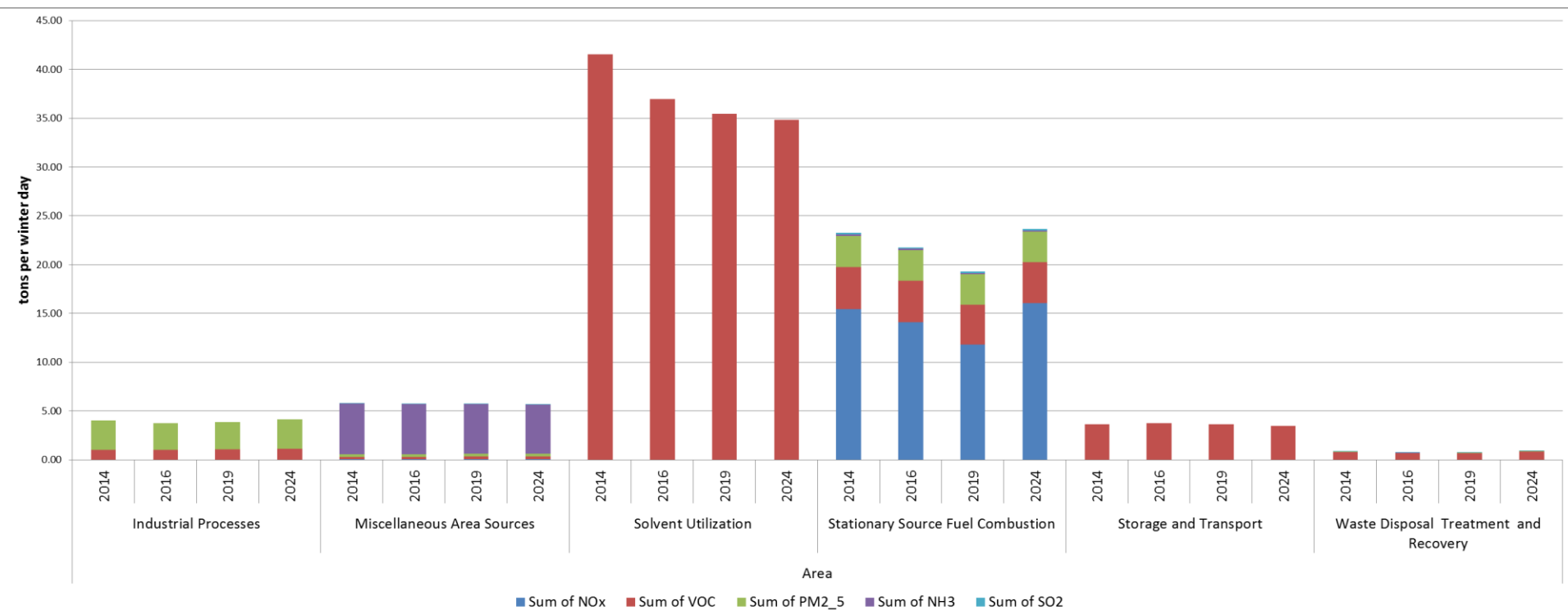
Total Emissions 2014-2024



Questions?



Area Emissions 2014-2024



Point Emissions 2014-2024

